## CLAIMS

## We claim:

- 1. A multi-valent immunogenic composition for conferring protection in a host against disease caused by Bordetella pertussis, Clostridium tetani, Corynebacterium diphtheriae, Haemophilus influenzae, poliovirus and/or Hepatitis B virus
- A multi-valent immunogenic composition for conferring protection in a host against disease caused by Bordetella pertussis, Clostridium tejani, Corynebacterium diphtheriae, Haemophilus influenzae, poliovirus and/or Hepatitis/B virus comprising:
  - (a) pertussis toxoid and filamentous haemagluttinin in purified form,
  - (b) tetanus toxoid,
  - (c) diphtheria toxoid,
  - (d) inactivated polio virus,
  - (e) Hepatitis B surface Ag, and
  - (f) a conjugate of a carrier molecule selected from tetanus toxoid and diphtheria toxoid and a capsular polysaccharide of *Haemophilus influenzae* type B.
- 3. The immunogenic composition of claim 2 formulated as a vaccine for *in vivo* administration to the host wherein the individual components of the composition are formulated such that the immunogenicity of individual components is not impaired by other individual components of the composition.
- 4. The immunogenic composition of claim 2 formulated as a vaccine for *in vivo* administration to the host, which confers an antibody titer superior to the criterion for seroprotection for each antigenic component for an acceptable percentage of human subjects.
- 5. The immunogenic composition of claim 3 further comprising an adjuvant.
- 6. The immunogenic composition of claim 5 wherein the adjuvant is aluminum salts.
- 7. The immunogenic composition of claim 3 wherein said pertussis toxoid is present in an amount of about 5 to about 30 ug and said filamentous hemagluttinin is present in an amount of about 5 to about 30 ug, in a single dose.

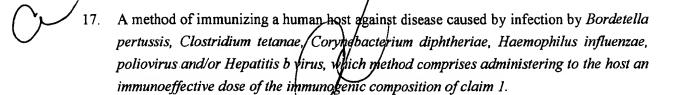


- 8. The immunogenic composition of claim 7 containing about 25 ug of pertussis toxoid and about 25 ug of filamentous haemagluttinin in a single human dose.
- 9. The vaccine of claim 7 wherein said diphtheria toxoid is present in an amount of about 5 to about 50 LF and said tetanus toxoid is present in an amount of about 5 to about 50 LF.
- 10. The vaccine of claim 9 wherein said diphtheria toxoid is present in an amount of about 30 LF and said tetanus toxoid is present in an amount of about 10 LF.
- 11. The vaccine of claim 3 wherein said inactivated polio virus comprises a mixture of inactivated polio virus types 1, 2 and 3.
- 12. The vaccine of claim 11 wherein said inactivated polio virus comprises a mixture of inactivated poliovirus types 1, 2 and 3 in the proportions: about 20 to about 50 D antigen units of poliovirus type 1; about 4 to about 10 D antigen units of poliovirus type 2; and about 8 to about 40 D antigen units of poliovirus type 3 in a single human dose.
- 13. The vaccine of claim 12, wherein said inactivated poliovirus comprises a mixture of inactivated poliovirus types 1, 2 and 3 in the proportions: about 40 D antigen units of poliovirus type 1; about 8 D antigen units of poliovirus type 2; and about 32 D antigen units of poliovirus type 3 in a single human dose.
- 14. The vaccine of claim 3 wherein said conjugate comprises a conjugate of tetanus toxoid or diphtheria toxoid and polyribose ribitol phosphate (PRP) of *Haemophilus influenzae* type b.
- 15. The vaccine of claim 3 wherein the Hepatitis B surface antigen is separated from other components in a dual-chamber syringe and is reconstituted during the administration to the subject
- 16. A multi-valent vaccine composition comprising, per 0.5 ml dose,
  - 25 ug pertussis toxold;
  - 25 ug filamentous/hemagluttinin;
  - 30 LF diphtheria toxoid;
  - 10 LF tetanus toxoid;
  - 40 D antigen units poliovirus type 1;





- 8 D antigen units poliovirus type 2;
- 32 D antigen units poliovirus type 3;
- 10 ug Haemophilus influenzae type b polysaccharide covalently bound to 20 ug tetanus toxoid;
- 5 ug Hepatitis B Surface Ag;
- 20 µMoles phosphates
- 5 μMoles carbonates
- 0.125 ml tris 50mMolaire buffer comprising saccharose in 42,5 % and 0.306 mg aluminum hydroxide.



- 18. The method of claim 17, wherein the host is a child.
- 19. A multivalent vaccine of claim 16 wherein the aluminium is in a quantity of 0.356 mg and wherein the Hepatitis B Surface Ag is separated from other components in a multi-chamber syringe.
- 20. A multivalent vaccine of claim 16 wherein the Hepatitis B Surface Ag is adsorbed on aluminium salts.

